HTML

Hyper Text Markup Language (HTML) is the standard markup language for creating Web pages. It consists of a series of **elements**.
These elements tell the browser how to display the content. These elements are represented by **tags**.
These tags label pieces of content such as "heading", "paragraph", “table" etc. Browsers don’t show these tags, but use it to render content of the page.

HTML Tags

HTML tags are element names surrounded by angle brackets. HTML tags normally come **in pairs** like ** ** and ** **.The first tag in a pair is the **start tag,** the second tag is the **end tag.** The end tag is written like the start tag, but with a **forward slash** inserted before the tag name.

HTML Attributes

Attributes provide additional information about the HTML elements.
All HTML elements can have attributes. They are always specified in the start tag.

1. The ‘href’ attribute

HTML links are defined with the **<a>** tag. The link address is specified in the href attribute.

```
<a href="www.prismcode.in">This is a link</a>
```

2. The ‘src’ attribute

HTML images are defined with the **<img>** tag. The filename of the image source is specified in the src attribute.

```
<img src="prismcode.jpg">
```

3. The ‘width’ and ‘height’ attribute

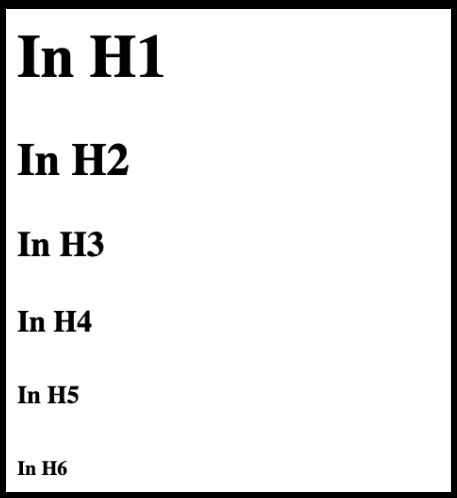
HTML images also have **width** and **height** attributes, which specifies the width and height of the image. The width and height are specified in pixels by default; so width="500" means 500 pixels wide.

```
<img src="prismcode.jpg" width="500" height="600">
```

HTML Heading Tags

Headings are defined with the **<h1>** to **<h6>** tags. <h1> defines the most important heading. <h6> defines the least important heading.

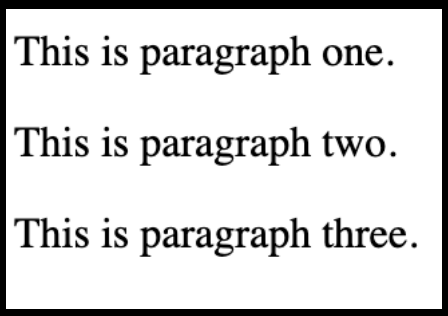
```
<h1>In H1</h1>
<h2>In H2</h2>
<h3>In H3</h3>
<h4>In H4</h4>
<h5>In H5</h5>
<h6>In H6</h6>
```



The Paragraph Tag

The HTML **<p>** element defines a paragraph. Browsers automatically add some white space before and after a paragraph.

```
<p>This is paragraph one.</p>
<p>This is paragraph two.</p>
<p>This is paragraph three.</p>
```



The <pre> Tag

The HTML <pre> element defines pre-formatted text.

The text inside a <pre> element is displayed in a fixed-width font, and it preserves both spaces and line breaks.

```
<pre>
   The pre
   tag preserves both      spaces
   and line breaks
   unlike the paragraph tag.
</pre>
```

```
The pre
tag preserves both      spaces
and line breaks
unlike the paragraph tag.
```

The Formatting Tags

They are used to format the text.

```
<p>
This text is <b>bold</b>, this is <i>italics</i>,this is
<sub>subscript</sub> and this is <sup>superscript</sup>.

</p>
```

This text is **bold**, this is *italics*,this is $_{\text{subscript}}$ and this is $^{\text{superscript}}$.

The 'style' Attribute

Setting the style of an HTML element, can be done with the **style** attribute. The property is a CSS property. The value is a CSS value.

```
<tagname style="property:value;">
```

```
<p style="color:red;">You can make text red.</p>
```

You can make text red.

HTML Links - Hyperlinks

HTML links are hyperlinks. You can click on a link and jump to another document. When you move the mouse over a link, the mouse arrow will turn into a little hand. A link does not have to be text. It can be an image or any other HTML element.

```
<a href="https://www.prismcode.in">PrismCode</a>
```

PrismCode

HTML Images

In HTML, images are defined with the **<img>** tag. The **<img>** tag is empty, it contains attributes only, and does not have a closing tag.

```
<img src="url">
```

HTML Tables

An HTML table is defined with the **<table>** tag. Each table row is defined with the **<tr>** tag. A table header is defined with the **<th>** tag. By default, table headings are bold and centered. A table data/cell is defined with the **<td>** tag.

```
<table border="1">
  <tr>
    <th>Firstname</th>
    <th>Lastname</th>
  </tr>
  <tr>
    <td>Jeevesh</td>
    <td>Awal</td>
  </tr>
  <tr>
    <td>Piyush</td>
    <td>Raj</td>
  </tr>
</table>
```

Firstname	Lastname
Jeevesh	Awal
Piyush	Raj

HTML Lists

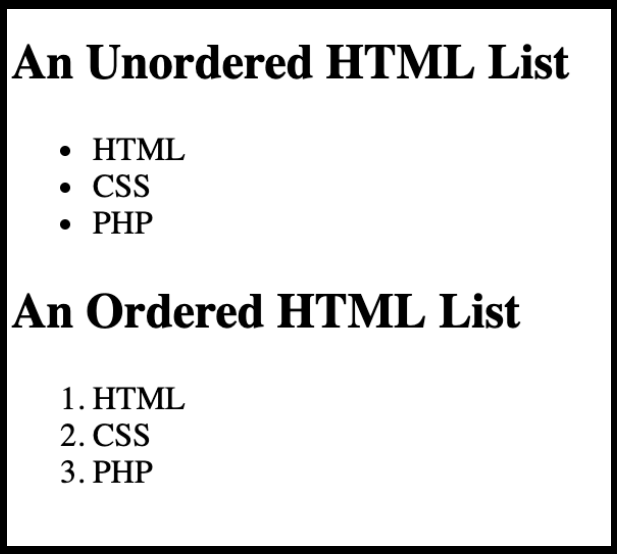
Unordered HTML List

An unordered list starts with the <ul> tag. Each list item starts with the <li> tag.
The list items will be marked with bullets (small black circles) by default.

Ordered HTML List

An ordered list starts with the <ol> tag. Each list item starts with the <li> tag.
The list items will be marked with numbers by default

```
<h2>An Unordered HTML List</h2>

<ul>
  <li>HTML</li>
  <li>CSS</li>
  <li>PHP</li>
</ul>

<h2>An Ordered HTML List</h2>

<ol>
  <li>HTML</li>
  <li>CSS</li>
  <li>PHP</li>
</ol>
```



HTML Forms

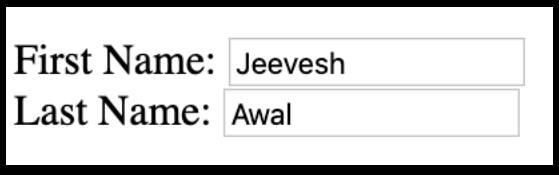
The HTML form element defines a form that is used to collect user input.

The **<input>** element is the most important form element.

- **Text Fields**

Input type text defines a single-line input field for **text-input**.

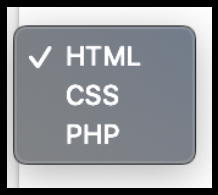
```
<form>

  First Name: <input type="text" name="fname" value="Jeevesh"><br>
  Last Name:   <input type="text" name="lname" value="Awal">

</form>
```



- **Select**

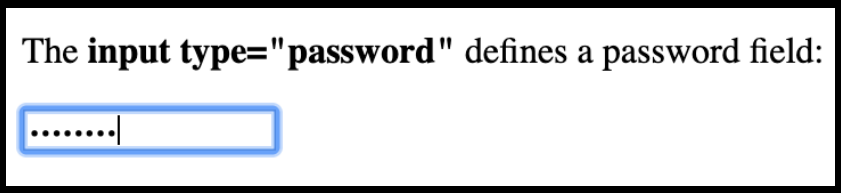
The **<select>** defines a drop-down list.

```
<select name="Web">
  <option value="HTML">HTML</option>
  <option value="CSS">CSS</option>
  <option value="PHP">PHP</option>
</select>
```



- **Password**

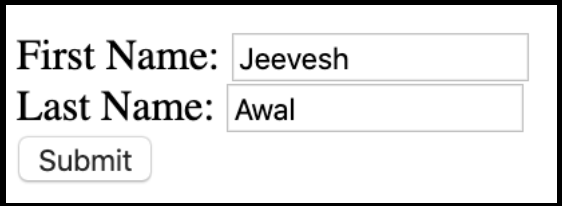
It defines a password field. The characters in a password field are masked (shown as asterisks or circles).



- **Submit**

<input type="submit"> defines a button for submitting form data to a form-handler.

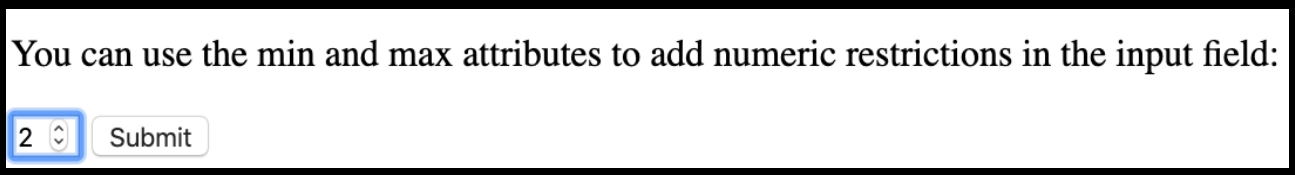
```
<form>

  First Name: <input type="text" name="fname" value="Jeevesh"><br>
  Last Name:  <input type="text" id="lname" name="lname" value="Awal"><br>
  <input type="submit" value="Submit">

</form>
```



- **Number**

The <input type="number"> defines a numeric input field. You can also set restrictions on what numbers are accepted.

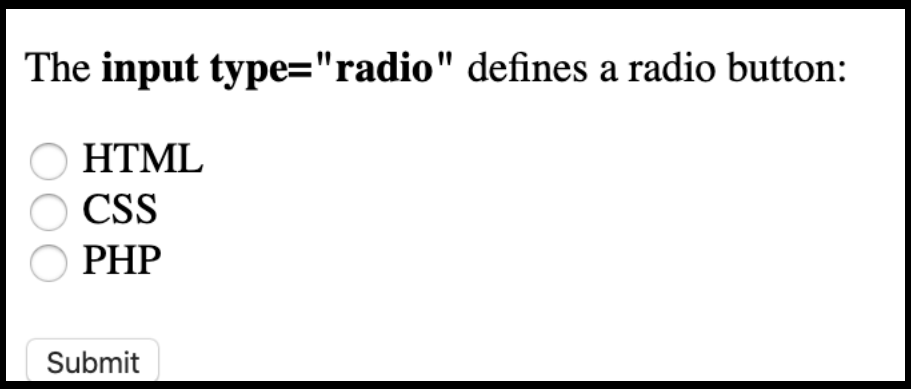
```
<form>
  <input type="number" id="quantity" name="quantity" min="1" max="5">
  <input type="submit" value="Submit">
</form>
```



- **Radio**

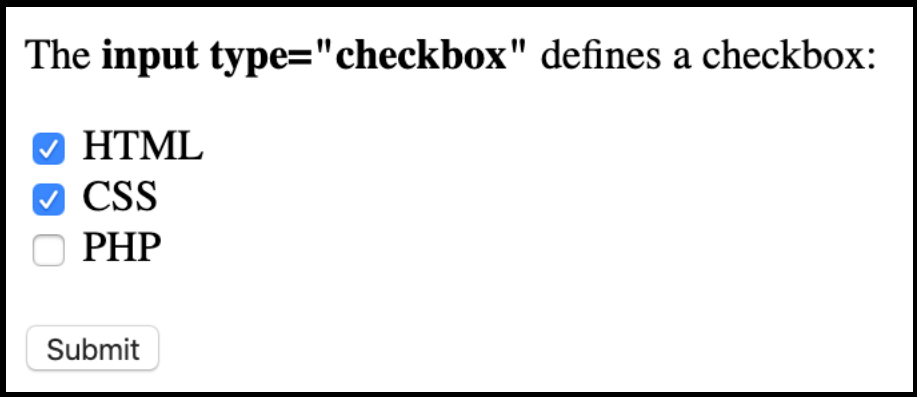
<input type="radio"> defines a radio button.

Radio buttons let a user select **ONLY ONE** of a limited number of choices.



- **Checkbox**

<input type="checkbox"> defines a checkbox. Checkboxes let a user select ZERO or MORE options of a limited number of choices.



CSS

CSS stands for **C**ascading **S**tyle **S**heets. CSS describes how HTML elements are to be displayed on screen, paper, or in other media. It **saves a lot of work**. It can control the layout of multiple web pages all at once. External stylesheets are stored in **CSS files.**

HTML was NEVER intended to contain tags for formatting a web page. It was created to **describe the content** of a web page, like:
<h1>This is a heading</h1>
This is a paragraph.

When tags like <font>, and color attributes were added to the HTML 3.2 specification, it started a nightmare for web developers. Development of large websites, where fonts and color information were added to every single page, became a long and expensive process.

To solve this problem, the World Wide Web Consortium created CSS. CSS removed the style formatting from the HTML page.

There are three ways to insert CSS:
- External CSS
- Internal CSS
- Inline CSS

External CSS

With an external style sheet, you can change the look of an entire website by changing just one file. Each HTML page must include a reference to the external style sheet file inside the <link> element, inside the head section.

```
<head>
<link rel="stylesheet" type="text/css" href="mystyle.css">
</head>
```

```
body {
  background-color: lightblue;
}

h1 {
  color: navy;
  margin-left: 20px;
}
```

This is a heading

Internal CSS

An internal style sheet may be used if one single HTML page has a unique style. The internal style is defined inside the <style> element, inside the head section.

```
<head>
<style>
body {
  background-color: lightblue;
}

h1 {
  color: maroon;
  margin-left: 40px;
}
</style>
</head>
```

Inline CSS

An inline style may be used to apply a unique style for a single element. To use inline styles, add the style attribute to the relevant element. The style attribute can contain any CSS property.

```
<h1 style="color:blue;text-align:center;">This is a heading</h1>
```

Cascading Order

What style will be used when there is more than one style specified for an HTML element?

All the styles in a page will "cascade" into a new "virtual" style sheet by the following rules, where number one has the highest priority:

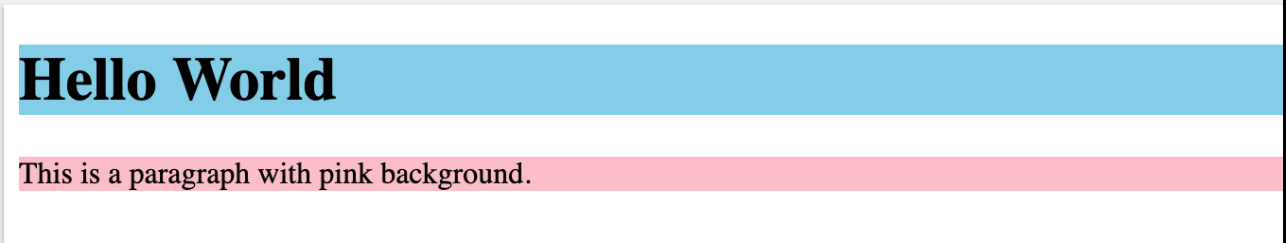
- Inline style
- Internal style
- External style
- Browser default

So, an inline style has the highest priority, and will override external and internal styles and browser defaults.

CSS Background Color

You can set the background color for HTML elements.

```
<h1 style="background-color:skyblue;">Hello World</h1>

<p style="background-color:pink;">
This is a paragraph with pink background.
</p>
```



CSS Text Color

You can set the color of text.

```
<h3 style="color:red;">Hello World</h3>

<p style="color:skyblue;">This is paragraph with blue colour.</p>

<p style="color:green;">This is a paragraph with green colour.</p>
```

CSS Backgrounds

The CSS background properties are used to define the background effects for elements. Following are the CSS background properties:

- background-color
- background-image
- background-repeat
- background-attachment

- **Background-color**

The background-color property specifies the background color of an element.

- **Background-image**

The background-image property specifies an image to use as the background of an element. By default, the background-image is repeated so it covers the entire element.

- **Background-repeat**

By default, the background-image property repeats an image both horizontally and vertically. Some images should be repeated only horizontally or vertically.

- **Background-attachment**

The background-attachment property specifies whether the background image should scroll or be fixed (will not scroll with the rest of the page).

CSS Margins

The CSS margin properties are used to create space around elements, outside of any defined borders. With CSS, you have full control over the margins. There are properties for setting the margin for each side of an element (top, right, bottom, and left).

Margin - Individual Sides

CSS has properties for specifying the margin for each side of an element:

- margin-top
- margin-right
- margin-bottom
- margin-left

All the margin properties can have the following values:

- auto - the browser calculates the margin
- *length* - specifies a margin in px, pt, cm, etc.
- % - specifies a margin in % of the width of the containing element
- inherit - specifies that the margin should be inherited from the parent element

CSS Padding

The CSS padding properties are used to generate space around an element's content, inside of any defined borders. With CSS, you have full control over the padding. There are properties for setting the padding for each side of an element (top, right, bottom, and left).

Padding - Individual Sides

CSS has properties for specifying the padding for each side of an element:

- padding-top
- padding-right
- padding-bottom
- padding-left

All the padding properties can have the following values:

- *length* - specifies a padding in px, pt, cm, etc.
- % - specifies a padding in % of the width of the containing element
- inherit - specifies that the padding should be inherited from the parent element

Text-Align

The text-align property is used to set the horizontal alignment of a text. A text can be:

- left align
- right align
- centered align
- justified align

CSS Float

The CSS float property specifies how an element should float.

The float property can have one of the following values:

- left - The element floats to the left of its container
- right - The element floats to the right of its container
- none - The element does not float
- inherit - The element inherits the float value of its parent

In its simplest use, the float property can be used to wrap text around images.